UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 301 S. PARK, DRAWER 10096
HELENA, MONTANA 59626-0096

Ref: 8MO

April 13, 2000

Mr. Michael L. Balboni
Three Rivers Ranger District
1437 N. Hwy 2
Libby, Montana 59935

Re: Spar and Lake Subunits Forest Health Project Draft Environmental Impact Statement

Dear Mr. Balboni:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the Environmental Protection Agency, Region VIII, Montana Office (EPA) reviewed the above-referenced Draft Environmental Impact Statement (DEIS).

The EPA is supportive of the purpose of the Spar and Lake Subunits Forest Health Project to improve forest health, winter range, water quality and to contribute timber products to the local economy. The EPA does not object to the preferred alternative, Alternative D. We are supportive of the minimal new road construction proposed with the preferred alternative (75% helicopter logging), and of proposed watershed improvements, including improving stream habitat, shrub and tree plantings, road drainage improvements, and road decommissioning. Improvements to forest road systems and reduction in road density are critical to protecting aquatic health and wildlife resources for the project area. We area also pleased that all activities in the action alternatives would occur outside of Riparian Habitat Conservation Areas (RHCAs), and that wetlands are included within RHCAs.

We do recommend that evaluation of harvest and burn units assure that the preferred alternative provides optimal balancing of environmental and resource trade-offs (water quality, fisheries, wildlife and habitat protection, road access, vegetative health, fire risk, recreation) to best address the project purpose and need. Desirable features we consider worthy of including in a preferred alternative include:

☞ avoid excessive water yield, channel erosion and sediment transport, and maximize fish and watershed improvement (i.e., road obliteration/improvement and revegetation, logging practices which minimize erosion and sediment production);

☞ reduce fuel loadings in high fire risk areas and restore desired vegetative conditions, while protecting other resource values (e.g., wildlife habitat and security, air and water quality, old growth, forest connectivity, control of noxious weeds);

☞ restrict motorized vehicle access adequately to protect wildlife and wildlife habitat and watersheds while allowing reasonable public access.

The EPA is supportive of Forest Service efforts control of noxious weed infestations, but to better meet the public disclosure purposes of NEPA we recommend that the Forest Service identify weed control chemicals to be used in the Spar and Lake Subunits project area, and include pesticide labels showing the use precautions and restrictions for the herbicide mixtures to be used during spraying, and identify acute toxicity levels of the proposed herbicides in the appendices of the FEIS. Hebicide spraying should occur in a manner that avoids transport or movement of potentially toxic chemicals to streams and wetlands.

The Spar and Lake Subunits Project includes significant amounts of prescribed burning. The EPA does not object to the use of prescribed fire to restore forest and grassland ecosystems. We believe that judicious use of prescribed fire can improve the health of ecosystems and reduce health and safety risks of uncontrolled wildfires. A well planned and managed prescribed fire and underburning program can be carried out without unduly impacting other resources (fisheries, wildlife habitat, and noxious weed spread and air quality). However, smoke from fire contains air pollutants, including tiny particulates which can cause health problems, especially for people suffering from respiratory illnesses. Smoke can also reduce visibility and diminish the appreciation of scenic vistas like the Cabinet Mountains Wilderness Area. We recommend that a windrose representative or as close as possible to a representation of the winds occurring in the project area be presented in the DEIS, and that a map be included showing the location of residential areas whose air quality could be affected by proposed burning. This will better disclose air quality impacts of burning to the local public.

The EPA also believes there is a need to conduct monitoring to determine ecological effects of the implementation of forest management activities. It is only through monitoring of ecological effects that the USFS will be able to determine whether management goals and objectives are being met. The DEIS includes Appendix H to show monitoring and evaluation activities in general terms. We recommend that more specific information on the proposed monitoring program and the USFS adaptive management system be provided in the FEIS.

The EPA's more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the Spar and Lake Subunits Forest Health Project are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the Spar and Lake Subunits Forest Health Project DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information). A copy of EPA's rating criteria is attached.

As can be seen from the enclosed comments, we support project purpose and need, and are pleased with helicopter logging, minimal new road construction, and proposed road decommissioning. The EPA is concerned about the lack of information on weed control chemicals to be used in the project area, and on the proposed monitoring program to identify impacts from implementation activities. We also note that proposed actions in the Stanley, Keeler, Dry and Lake Creeks drainages, which are classified as water quality limited by the State of Montana should be consistent with the State's Total Maximum Daily Load (TMDL) development. The EPA believes additional information is needed to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 441-1140 ext. 232.

Sincerely,

Original Signed by

John F. Wardell
Director
Montana Office

Enclosure

cc: Cynthia Cody/Yolanda Martinez, EPA 8EPR-EP, Denver
Earl Sutton, Forest Service-Region 1, EAPS, Missoula
Stuart Lehman, MDEQ, Helena
Cliff Walker, Forest Service-Region 1, FRM, Missoula

EPA COMMENTS ON SPAR AND LAKE SUBUNITS FOREST HEALTH PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT

Brief Project Overview:

The Kootenai National Forest, Three Rivers Ranger District, has evaluated four alternatives, including no action, for vegetation management in the Lake Creek watershed, including the Spar Subunit west of Lake Creek, and the Lake Subunit east of Lake Creek. The project area, south of Troy, Montana, is approximately 135,000 acres and includes the Iron, Keeler, Stanley, Thicket, Ross, Camp, and Dry Creek drainages tributary to Lake Creek and Bull Lake. The purpose of the project is to improve forest health, winter range, water quality and to contribute timber products to the local economy.

Alternative A, no action, serves as a baseline to the action alternatives. The action alternatives B, C, and D include timber harvest, fuels treatment, underburning and reforestation work. Alternative B, the modified proposed action, harvests 1,994 acres of timber (18.4 MMBF), and 2,161 acres of conversion burning and 1,766 acres of maintenance burning. Burning in inventoried roadless areas includes 634 acres in the Cabinet West IRA, 1,327 acres in the Scotchman Peak IRA, and 1,027 acres in the MA-8 allocation in the Scotchman Peaks proposed Wilderness Area.

Alternative C drops burn units above Bull Lake to address landowner concerns; drops burning in roadless areas and MA-8; adds treatments in areas infested with insects and disease; and includes harvest and burn units in the Copper Mountain area to benefit wildlife habitat. Alternative C harvests 2,173 acres of timber (20.0 MMBF), and 449 acres of conversion burning and 830 acres of maintenance burning.

Alternative D, the preferred alternative, is similar to Alternative B but it drops burn units above Bull Lake to address landowner concerns; adds treatments in areas infested with Douglas Fir bark beetle and Mountain Pine bark beetle; and includes the prescribed burning in roadless areas. Alternative D harvests 2,173 acres of timber (20.0 MMBF), and 1,824 acres of conversion burning and 1,503 acres of maintenance burning.

For the action alternatives timber harvest units would be accessed from existing roads with the exception of one unit (unit 8) that would require construction of 0.4 miles of temporary road. Approximately 75 percent of units would be harvested with helicopters, 15 percent with skyline yarding, and 10 percent with tractors. Some existing roads may require reconstruction. Approximately 5.4 miles of road would be decommissioned; 2.5 miles of road would be put in longer storage (i.e., allowed to naturally revegetate); and 7.4 miles of road would be maintained and improved. If funding becomes available additional road improvement and watershed restoration work would be done.

Comments:

1. The EPA is supportive of the proposed project to improve forest health, winter range, water quality and to contribute timber products to the local economy. The EPA does not object to the preferred alternative, Alternative D. We do, however, believe it is important to optimize and balance the environmental and resource trade-offs (water quality, fisheries, wildlife and habitat protection, road access, vegetative health, fire risk, timber economy, recreation, etc.) to address project purpose and need.

   We recommend that the Forest Service review harvest and burn units in the preferred alternative to assure an optimal balance for environmental and resource trade-offs. We also encourage full discussion of environmental and resource trade-offs in the FEIS. This may better explain to the public the trade-offs involved in making land management decisions, and may lead to improved public acceptance of decisions. Desirable features we consider worthy of including in a preferred alternative include:

   ☞ avoid excessive water yield, channel erosion and sediment transport, and maximize fish and watershed improvement (i.e., road obliteration/improvement and revegetation, logging practices which minimize erosion and sediment production);

   ☞ reduce fuel loadings in high fire risk areas and restore desired vegetative conditions, while protecting other resource values (e.g., wildlife habitat and security, air and water quality, old growth, forest connectivity, control of noxious weeds);

   ☞ restrict motorized vehicle access adequately to protect wildlife and wildlife habitat and watersheds while allowing reasonable public access

   We also note that the degree of differentiation in timber harvest among the present action alternatives appears limited. All action alternatives are very similar in timber harvest (i.e., in terms of locations of harvest units, harvest type, and logging method). The only differences in timber harvests between action alternatives appears to be several harvest units in the Copper Mountain area and Keeler Creek drainage (harvest units 4A, 4B & 4C, 13,14, 37, 38, 42F, 42G, 43C included in Alternatives C and D, but not in Alternative B). Alternatives C and D appear identical in terms of timber harvest. This could bring into question whether a "full spectrum of reasonable alternatives" was analyzed and compared in the DEIS (in accordance with NEPA guidance).

   When a narrow range of alternatives is evaluated in an EIS, it can suggest that the EIS is merely affirming an action that has already been chosen. An appropriate range of alternatives to address a particular project purpose and need, of course, depends upon the site-specific circumstances encountered in a particular project. It may be beneficial for public disclosure purposes to better explain the narrow differentiation in timber harvest among action alternatives (i.e., Explain why additional variations in harvest unit locations

and treatments were not evaluated?).

2. We are pleased that the preferred alternative includes watershed restoration work (e.g., road closures, road drainage improvements, adding woody debris to stream channels, shrub and tree plantings, etc.), minimal new road construction (i.e., 75% helicopter logging, only 0.4 mile of temporary road construction with preferred alternative), RHCA buffers, and no harvest in old growth timber. Improvements to forest road systems and reduction in road density are critical to protecting aquatic health and wildlife resources for the project area. We are also pleased that wetlands are designated as RHCAs (page3-37), and that no harvest will occur within the RHCA or within an additional 100 feet wide buffer around the wetland area. We encourage the Forest Service to delineate and mark perennial seeps and springs and wetlands on maps and on the ground before harvesting so that timber contractors will be able to avoid them.

3. We support inspections and evaluations to identify existing road conditions that cause or contribute to nonpoint source pollution and stream impairment. We also recommend that the FEIS describe the frequency of maintenance activities for roads and whether adequate funding is anticipated for road maintenance. Blading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided.

   Areas of concern regarding roads include the number of road stream crossings; road drainage; culvert sizing and potential for washout; culvert allowance of fish migration and effects on stream structure; seasonal and spawning habitats; large woody debris supplies; and riparian habitats. Undersized culverts should be replaced and culverts which are not aligned with stream channels or which present fish passage problems and/or serve as barriers to fish migration should be adjusted.

   We recommend that the FEIS describe necessary inspection and non-traffic-generated maintenance activities for closed, but unobliterated, roads, and describe obliteration and rehabilitation methods and their effectiveness for roads whose road prisms will be physically removed.

4. We commend the Forest Service for including the Vegetation Treatment Summaries (Appendix A) and Pictorial Views of Vegetation Treatments (Appendix B) in the DEIS. These unit by unit timber harvest summaries and pictorial views of treatments provide improved understanding of proposed vegetation treatments for harvest units (i.e., clearcut, seed tree, shelterwood), and better satisfy the public disclosure aspect of the NEPA regulations.

5. We are pleased that 75% of logging yarding will be by helicopter and 15% by skyline cable, and only 10% by tractors, since helicopter and skyline cable logging cause less ground disturbance and erosion than tractor logging (page 3-143). While the yarding or

logging methods are clearly identified per harvest unit in Appendix A, we note it would be helpful to identify these varied logging or yarding methods on the Alternatives Maps.

6. We did not see descriptions for the landtypes shown on the Landtypes Map on page M-13. Even though it is stated (page 3-145) that harvest units would avoid impacts to sensitive soils, it would be helpful to have descriptions of these landtypes so that the public could see that harvest units and road construction are not proposed in unstable and erosive areas. Landtype information such as slope, mass failure potential, and the erosivity of soils is of particular interest. An overlay of harvest units vs. areas of steep slopes, high mass failure potential and erodible soils is helpful in evaluating sediment transport potential.

7. We are pleased that it is stated that there are no known landslide prone areas within proposed harvest units, and that landslide prone areas found during layout would be identified as RHCAs (page 3-145). What procedures or measurements will be made during layout to identify landslide prone areas? What are the criteria for such identifications of landslide prone areas and their designation as RHCA?

8. The Bull Trout and Westslope Cutthroat Trout Fish Distribution Map on pages M-15 and M-16 shows that Keeler Creek and its North and South Forks provide adfluvial spawning and rearing habitat, and potentially pure westslope cutthroat trout habitat. The maps show Ross Creek and its North and South Forks provide genetically pure westslope cutthroat trout habitat. Copper Creek provides potentially pure westslope cutthroat trout habitat. The channel condition for Keeler, Stanley, and Camp Creeks are stated to be altered and/or not functioning properly (page 3-44) due to past harvest and other activities such as mining in these watersheds.

   Review of the alternatives maps shows significant levels of timber harvest (i.e., units 11-49) appear to be proposed in the Keeler Creek drainage, particularly North Fork Keeler Creek where a large portion of bull trout spawn (page 3-69), and Stanley Creek drainage (units 52-56); and significant burning is proposed in the Copper Creek drainage (Burn units B,C, D, E, F), and in the steep sloped Ross Creek drainage (Burn units V,W, X, Y, Z) and South Fork Keeler Creek drainage (Burn unit R).

   The DEIS states that these harvests in the Keeler Creek and Stanley Creek drainages and burns in Copper and Ross Creek drainages will not adversely affect bull trout or westslope cutthroat trout, and may only slightly increase water yield or affect water quality (pages 3-61, 3-80). These very minor stream and fisheries impacts appear somewhat surprising given the many harvest units in these already degraded drainages, and burn units in steep sloped drainages. Low levels of road construction, use of helicopter logging, and avoiding erosive areas with harvest units, may help explain the relatively benign water quality and fisheries impacts that were disclosed in the DEIS. We recommend, however, that the FEIS provide some further discussion to more fully explain how these streams and fisheries, noted to not functioning properly, will only be slightly impacted, particularly the

sensitive spawning habitat of North Fork Keeler Creek, since significant levels of timber harvest are proposed.

9. We note that portions of Stanley, Keeler, Dry and Lake Creeks are listed as a water quality limited water bodies by the Montana Department of Environmental Quality (MDEQ). These listed streams will need development of Total Maximum Daily Loads (TMDL) by the State. The TMDL process identifies the maximum load of a pollutant (e.g., sediment, nutrient) a waterbody is able to assimilate and fully support its designated uses; allocates portions of the maximum load to all sources; identifies the necessary controls that may be implemented voluntarily or through regulatory means; and describes a monitoring plan and associated corrective feedback loop to insure that uses are fully supported.

   We recommend that the Forest Service contact the Montana Department of Environmental Quality (i.e., Stuart Lehman at 444-5319 in Helena) to ensure MDEQ concurrence on, and coordination of, proposed activities in these drainages with the MDEQ's TMDL development.

10. We believe there is a need to conduct monitoring to determine ecological effects of the implementation of forest management activities. It is only through monitoring of ecological effects that the USFS will be able to determine whether management goals and objectives are being met. The EPA endorses the concept of adaptive management whereby effects of implementation activities are determined through monitoring (i.e., ecological, environmental effects).

    Changes to land management and further development of implementation projects should be based on evaluation of monitoring results and comparison to goals and objectives. It is through the iterative process of setting goals and objectives, planning and carrying out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, that adaptive management works. Monitoring programs also allow detection and identification of water and air quality and other resource impacts that do occur so that they may be better mitigated. We believe monitoring and feedback of monitoring results to managers is critical to the success of a land management plan.

    The DEIS includes Appendix H to describe monitoring and evaluation in general terms. We recommend that additional information on the proposed monitoring program and the USFS adaptive management system be provided in the Monitoring Plan.

    The EPA particularly believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and should be an integral part of any management decision. We believe a hydrological and

aquatics monitoring plan should be identified in the NEPA documents. While minimal water quality or aquatic impacts are predicted as a result of implementation of the preferred alternative, we still believe a minimal level of water quality/aquatics monitoring activities is useful to validate and document BMP effectiveness in protecting water quality, beneficial uses, and Montana Water Quality Standards, and to measure and document the water quality improvements from watershed restoration elements from implementation of the preferred alternative.

We realize that monitoring budgets are limited, but we believe some level of monitoring should be carried out for a period of time after the vegetation management activities to assess effects on aquatic habitat and biota. We note that monitoring has often not been a high priority with other forest management agencies and has frequently been under funded. We believe monitoring and feedback of monitoring results to managers is critical to the success of a forest management plan. The EIS should include a strong, explicit commitment to monitoring, such as that in the Forest Service Pacific Northwest Region's Forest Monitoring and Evaluation Guide in which the Regional Forester stated, **"All programs and projects should contain appropriate levels of monitoring funds in their costs - or they should not be undertaken."** (USDA FS 1993). Without this information the EIS is inadequate to fully assess the role of monitoring and evaluation in management plan implementation.

We would like to see clear water quality monitoring goals and objectives identified and described in the FEIS (e.g., what questions are to be answered; what parameters are to be monitored; where and when monitoring will occur; who will be responsible; how the information will be managed and evaluated; and what actions will be taken based on that information).

The monitoring plan should at a minimum include sampling design, methodology, parameters, sampling site locations shown on a map, and frequency or pattern of sampling. The EPA recommends consideration of using stream cross sections, stream substrate sediment measures, and rapid bioassessments using macroinvertebrates, in a monitoring program. Monitoring of the aquatic biological community is desirable since the aquatic community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples of turbidity and suspended sediment. We encourage you to use the following reference materials in designing and disclosing a monitoring program:

"Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska", Lee H. McDonald, Alan W. Smart, and Robert C, Wissmar; May 1991; EPA/910/9-91-001.

"Rapid Bioassessment Protocols for Use in Streams and Rivers", James A. Plafkin; May 1989; EPA/444/4-89-001.

Montana Forestry BMP's; Extension Publications; July 1991, Montana State University; EB0096.

"Montana Stream Management Guide; for Landowners, Managers, and Stream Users", Montana Dept. Of Environmental Quality; December 1995.

11. It is stated (pages 3-57, 3-137) that noxious weeds would be sprayed along roads and landings. The proposed weed treatment chemicals and herbicides to be used, however, are not identified. The EPA is supportive of the control of noxious weed infestations, but we believe additional information should be presented to identify weed control chemicals, and the potential for toxic chemicals to be transported to surface or ground water following application. To better meet the public disclosure purposes of NEPA we recommend that the Forest Service include pesticide labels showing the use precautions and restrictions for the herbicide mixtures to be used during spraying, and that the acute toxicity levels of the proposed herbicides, in the appendices of the FEIS.

We also recommend that the Forest Service include an objective indicating that herbicides, pesticides, and other toxicants and chemicals be used in a safe manner in accordance with Federal label instructions and restrictions that allow protection and maintenance of water quality standards and ecological integrity, and avoid public health and safety problems. It should be unequivocally stated that no herbicide spraying will occur in wetlands or other aquatic areas (seeps, springs, streams, etc.,) to avoid herbicide drift into wetlands that could adversely affect wetland functions such as food chain support and habitat for wetland species.

All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. Herbicide applicators should be advised of the potential for runoff of herbicides at toxic concentrations into the streams. The applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.). We recommend that streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of aquatic areas, and thus, can avoid spraying in or near aquatic areas.

For your information, many herbicides such as picloram (Tordon) and clopyralid (Curtail, Transline) and dicamba (Banvel)have potential to be transported to surface and ground waters. Clopyralid is closely related structurally to picloram (3, 6, Dichloropicolinic acid). The Montana Department of Agriculture (MDA) considers picloram and clopyralid to have high potential for leachability, since they do not readily adsorb to soils, do not photo degrade or volatilize. Clopyralid has a water solubility of approximately 300,000 ppm, a relatively low adsorption coefficient, and a moderate half life (approximately 40 days). Dicamba has a water solubility of approximately 400,000 ppm, and a half life of approximately 14 days. The MDA has found picloram and clopyralid in ground water in

the Fairfield Bench area northwest of Great Falls where there are sandy clay soils. Clopyralid and picloram levels in ground water have been in the part per billion levels, below those considered a risk for human health.

We note in particular that picloram can persist and be transported in water systems for long periods (e.g. picloram solubility in water of 430 mg/l). Picloram is also relatively toxic to aquatic life having a 96 hour LC50 of 3.5 mg/l (cutthroat trout). We also note that Tordon application by a County Weed District in Wyoming (in accordance with herbicide label restrictions) resulted in transport of picloram through ground water a distance of several miles. Subsequent pumping of downstream ground water for household use resulted in the death of garden and household plants, evidencing the continuing presence of picloram in ground water. Mr. Edward Stearns, pesticide specialist in EPA's Denver Regional Office (telephone number (303) 312-6946), can provide further information regarding this particular episode of ground water contamination from picloram application.

In areas of highly permeable, sandy gravelly soil, and high ground water there may be potential for herbicides like clopyralid and picloram to leach to ground water. The Montana Department of Agriculture considers 50 feet of soil depth to be sufficient depth of soil to mitigate the potential for the movement of picloram or clopyralid to ground water (Donna Rise, MDA, phone 444-5400), although less permeable soils may allow reduction in this safe soil depth to ground water.

The vulnerability and sensitivity of area ground waters to contamination from proposed herbicide use should be considered. Relevant information on ground water in areas proposed for herbicide application including depth to ground water, seasonal variation in ground water depth, soil types-permeability-transmissibility, leaching potential, ground water uses, proximity of herbicide application areas to drinking water sources and/or wells, proximity of herbicide application areas to aquifer recharge areas, direction of ground water flow, ground water-surface water connections and interactions, etc., should be considered. The Ground Water Information Center at the Montana Bureau of Mines & Geology in Butte, MT at 496-4153 may have well log information for the area that would help establish ground water levels.

The Montana Department of Agriculture has developed a Generic Management Plan, which has been approved by EPA, for the management of agricultural chemicals in Montana, including herbicides, and the protection of ground water resources. The Generic Management Plan serves as a basis from which Pesticide Specific Management Plans can be developed by the Montana Dept. of Agriculture and EPA. The Forest Service should assure that their proposed use of herbicides is consistent with this Generic Management Plan and future Pesticide Specific Management Plans, and is coordinated with the Montana Dept. of Agriculture (contact Ms. Donna Rise, in Helena at 406-444-3676).

We believe additional information should be provided in the FEIS to assure that weed management activities will not impact the aquatic ecosystem.

12. The carcinogencity of weed control chemicals proposed for use should also be understood. We note that evaluation of the carcinogenicity of these chemicals is an ongoing process, and as studies progress, information may change. The website for EPA information regarding the cancer classification for pesticides and herbicides is <http://www.epa.gov/pesticides/carlist>.

    We also believe that health concerns other than carcinogenicity stemming from possible exposure to low levels of herbicides, such as endocrine disruption or reproductive effects should be considered. There is controversy over possible endocrine effects of 2, 4, D.

13. The EPA supports development of a strategy for prevention, early detection of invasion, and control procedures for the major weed species threats on the Forest. Spread of noxious weeds and exotic (non-indigenous) plants is among the greatest threats to biodiversity. Many noxious weeds can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem, such as road building, fire, or logging activities.

    We are pleased that Appendix E has been included in the DEIS to identify measures used to stop the spread of noxious weeds. The EPA encourages the early control of noxious weed infestations to stop the spread of the infestations and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on biodiversity, water quality and fisheries. Weed plant seeds can be carried from a source area by the wind, wildlife or pack animals, on equipment tires and tracks, by water, and on the boots of hikers. Care should be taken to implement control procedures in all source areas to avoid spread to unaffected areas. Measures for preventing spread from source areas to uninfested areas include:

    - Noxious weeds can be spread by vehicles. Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site. The Forest Service may want to consider some restrictions on vehicles to reduce potential for reinfestation of the area by noxious weeds after treatment.

    - Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into uninfested areas.

    - Attempt to control the spread from one watershed to another to reduce water as a transport vector.

- If a localized infestation exists and control is not a viable option, consider rerouting trails or roads around the infestation to reduce available vectors for spread.

- Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.

- Reseed disturbed sites as soon as possible following disturbance.

Also, if sufficient vegetation is killed (e.g., by prescribed burning) it may warrant revegetation efforts. Revegetation (reseeding with native grass mix) should be considered for any site within the control area where the vegetation density is low enough to allow reinfestation or introduction of other noxious weeds, or erosion. The goal of the seeding program should be to establish the sustainability of the area. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail. Mr. Phil Johnson, Botanist, Montana Dept. of Transportation, in Helena at 444-7657, may be able to provide guidance on revegetation with native grasses.

We also note that hay can be a source of noxious weed seed. Hay/straw is used as mulch to slow erosion and encourage seed germination, and used to feed horses in hunting and recreation camps, and as wildlife feed during harsh winters. The Federal Noxious Weed Act of 1974 prohibits the interstate transport of noxious weeds or weed parts, such as seed. Montana has a weed free certification program for hay. Forest Service staff should contact the County Extension Agent regarding this program. The Forest Service may want to discuss the option of requiring use of certified weed free hay in permits or projects. Cattle that are released on grazing allotments or horses used on public lands can transport undigested weed seed and spread it in their manure. Another option for preventing the introduction of noxious weeds it to require cattle and horses, especially those coming from areas with noxious weeds, to be penned and fed weed free hay for several days prior to being released on public lands.

14. Prescribed burning in certain areas may have the potential to stimulate or promote noxious weed problems (e.g., Dalmation toadflax or leafy spurge growth) or destroy insects that may have been introduced for biological weed control. Burning can promote weed growth, but burning followed by herbicide use can bring effective weed control. We also agree with the control measure shown on page E-4 to spray weed infestations occurring in or adjacent to burn units.

Air Quality

15. The EPA does not object to the increased use of prescribed fire and underburning to restore forest and grassland ecosystems. We believe that judicious use of prescribed fire can improve the health of ecosystems and reduce health and safety risks of uncontrolled

wildfires. A well planned and managed prescribed fire and underburning program can be carried out without unduly impacting other resources (fisheries, wildlife habitat, and noxious weed spread and air quality).

As you are aware, smoke from fire contains air pollutants, including tiny particulates which can cause health problems, especially for people suffering from respiratory illnesses. Smoke can also reduce visibility and diminish the appreciation of scenic vistas like the Cabinet Mountains Wilderness Area.

We recommend that the USFS incorporate use of techniques that minimize air pollutant emissions from fire and the adverse impacts of smoke on public health and the environment. These techniques include scheduling burning during favorable weather conditions that allow good smoke dispersal, limiting the amount of land burned at any one time, and mechanical pretreatment of fuels.

Sound fire management practices include:

* Reducing the dangerous build-up of dead trees, branches, and vegetative matter on forest floors by using prescribed fire or the selective thinning, pruning, or cutting and removal of trees by mechanical means.

* Using smoke management techniques during burns to minimize smoke in populated areas as well as visibility effects. Each prescribed burn site will have unique characteristics, but in general, smoke impacts can be minimized by burning during weather conditions that provide optimal humidity levels and wind conditions for the types of materials being burned. Smoke impacts can also be minimized by limiting the amount of materials and acreage burned at any one time. Careful scheduling of the many burning activities to coincide with proper climatological and meteorological conditions helps avoid air quality problems.

* Whenever possible, mechanical thinning (such as selective timber thinning, pruning, or cutting of small trees) can be used as an effective “pretreatment” to prescribed burning.

* Implementing fire hazard awareness and mitigation programs for the public.

Conduct of prescribed fires immediately before precipitation events and runoff periods may result in stream sedimentation and nutrient transport to surface waters. We recommend low intensity fire in specific planned locations spread out over time so that some vegetative cover becomes reestablished before runoff periods.

While in general we concur with the use of prescribed burning to help achieve forest health, we suggest that there may be circumstances where it may be appropriate to use mechanical treatments in lieu of prescribed burns to address fuel accumulation in areas.

Mechanical treatments may be appropriate where the risk of the escape of prescribed burns is high and where nearby home developments may be threatened. Additional information on wildland fire and air quality issues is available from EPA's website <www.epa.gov/airlinks/>.

16. Overall, the air quality analysis in the DEIS was well written and shows comparisons of air quality impacts according to selected alternative. We do recommend that a windrose showing the frequency of wind direction and wind speed for the project area be included in the Final EIS so that local residents can better understand the potential for air quality impacts in their area.

Wildlife and Old Growth

17. We note that with the advent of all terrain vehicles (ATVs) and off-road vehicles (ORVs) it is difficult to effectively restrict motorized access with simple road closures (i.e., gated closures). Gated road closures are less effective at providing wildlife security than in the past due to the advent of widespread use of ATVs and ORVs. An effective policing and enforcement program is needed to assure that motorized access does not occur in restricted areas. We recommend that the FEIS describe the USFS inspection and enforcement program that will be used to assure that ATVs and ORVs will not violate motorized vehicle access limitations. It is important that wildlife protection, vegetation management, and erosion control goals be achieved, and these goals can only be achieved if enforcement of road access restrictions occurs.

18. We are pleased that no harvest of existing old growth would occur (page 3-127). Will the larger diameter ponderosa pine, western larch and douglas fir trees in harvest units be retained? We favor retention of the large diameter ponderosa pine, western larch and douglas trees, since it is our understanding that retention of these larger diameter trees would restore more natural ecological characteristics to the forest.

19. Would it be appropriate to place larger harvest units adjacent to existing forest openings in order to preserve areas that are currently less fragmented?